1: Biochem Biophys Res Commun. 1998 Apr 28;245(3):841-6.

ELSEVIER FULL-TEXT ARTICLE

High affinity binding of oxidized LDL to mouse lectin-like oxidized LDL receptor (LOX-1).

Hoshikawa H, Sawamura T, Kakutani M, Aoyama T, Nakamura T, Masaki T.

Department of Pharmacology, Faculty of Medicine, Kyoto University, Japan.

We cloned mouse LOX-1 cDNA to take advantage of a gene-targeting technique to clarify the role of LOX-1 in vivo. Mouse LOX-1 was composed of 363 amino acids and had a C-type lectin domain type II membrane protein structure. Mouse LOX-1 had triple repeats of the sequence in the extracellula "Neck domain," which is unlike human and bovine LOX-1. LOX-1 bound oxidized LDL with two classes of binding affinity in the presence of serum. The binding component with the higher affinity showed the lowest value of Kd among the known receptors for oxidized LDL. In the absence of serum, the high affinity component disappeared, suggesting that an unknown co-factor in serum is essential for efficient uptake of oxidized LDL by endothelial cells. A low concentration of unlabeled oxidized LDL displaced 125I-labeled oxidized LDL more efficiently in the presence of serum than in the absence of serum. The co-factor in the serum may be involved in the pathophysiology of atherosclerosis in addition to the oxidation of LDL.

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